

Title: ELECTRONICALLY
CONTROLLED HYDRAULIC BRAKE
SYSTEM

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FIG.1

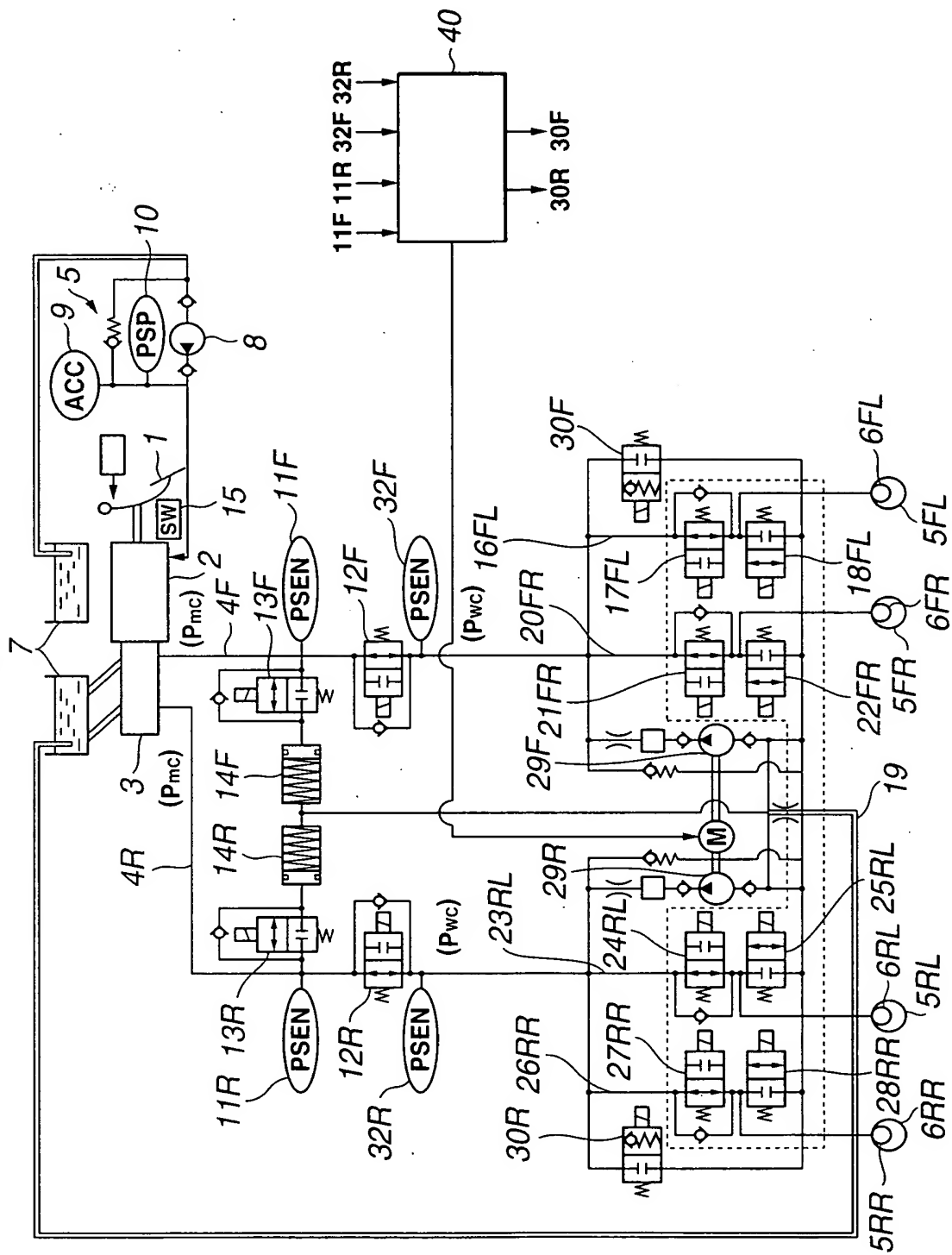


FIG.2

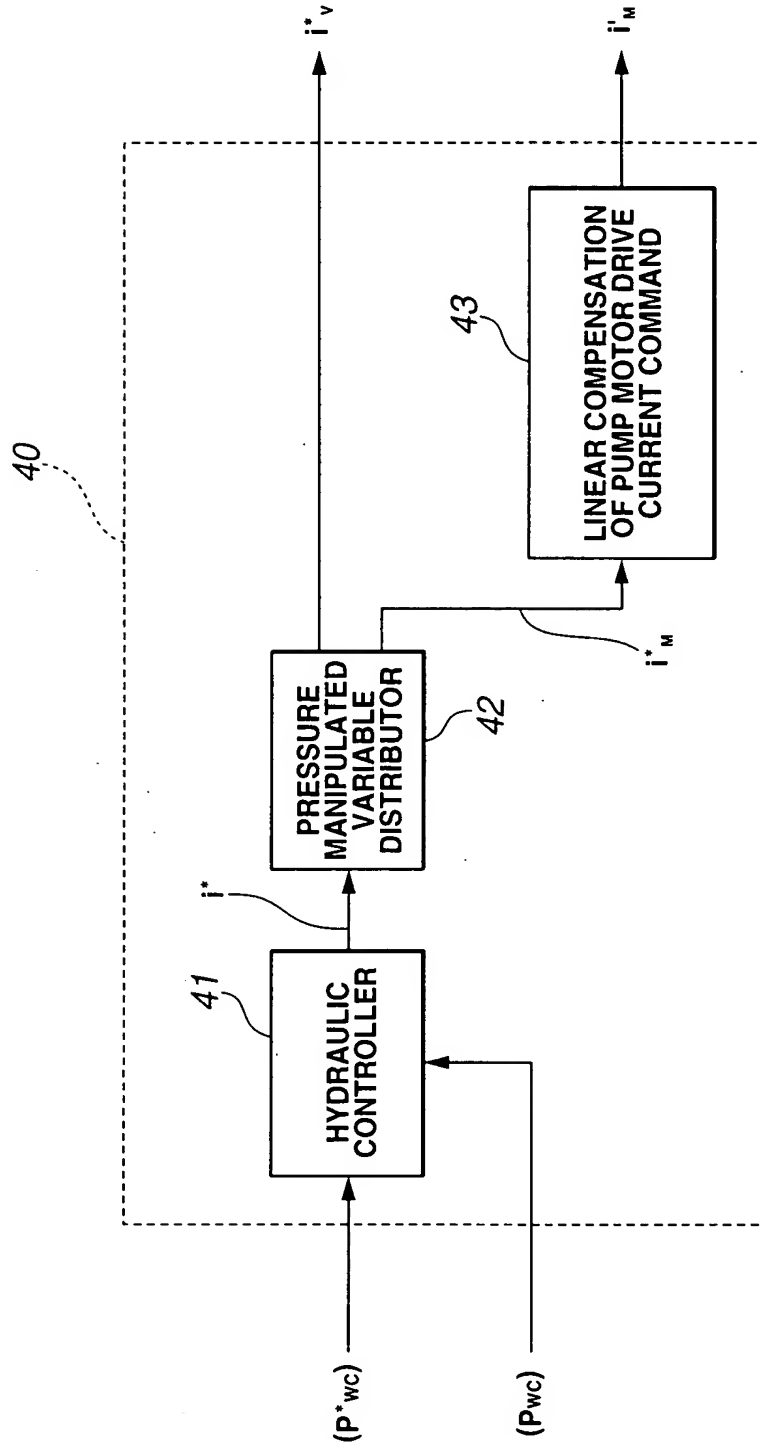


FIG.3

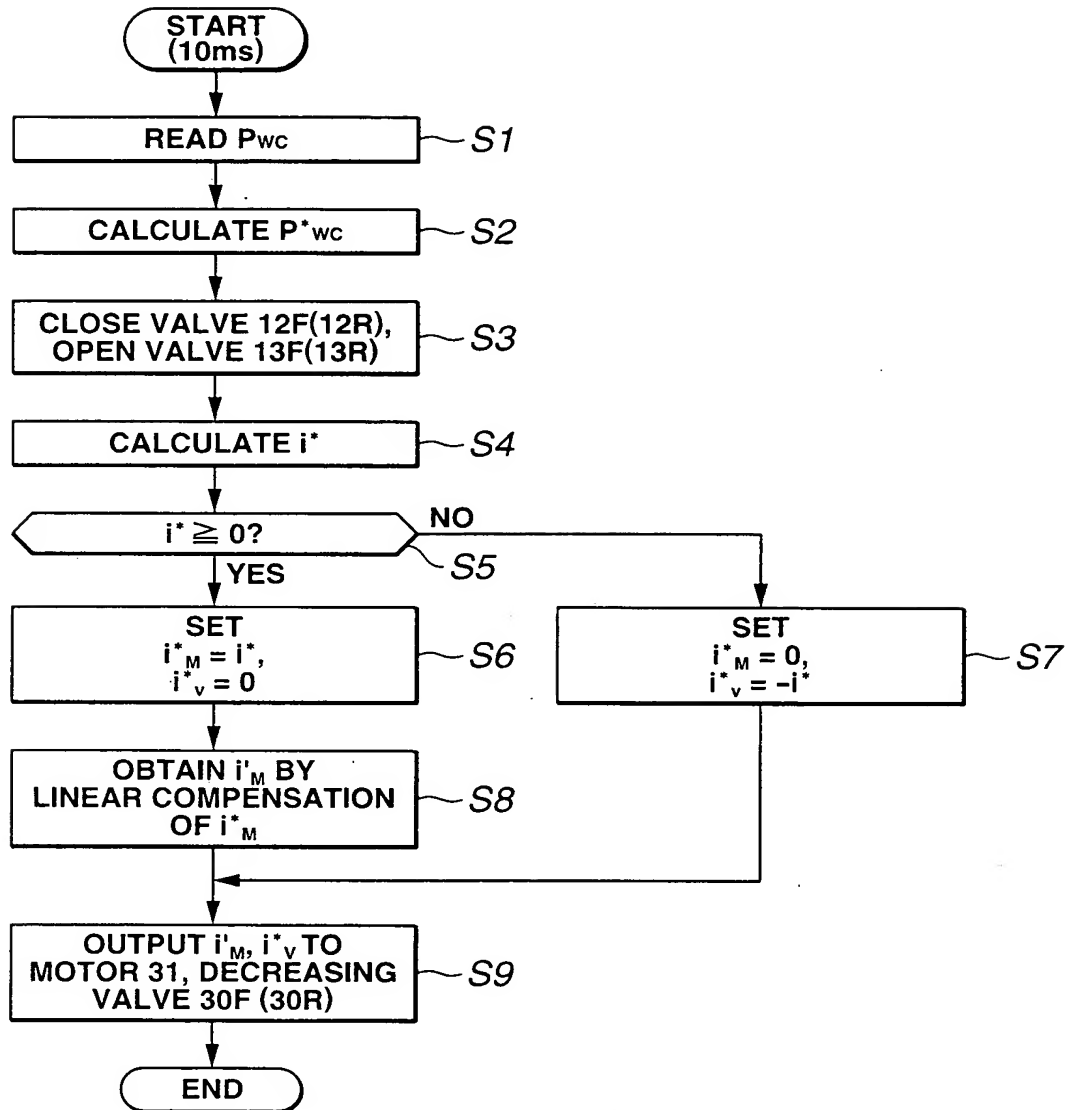
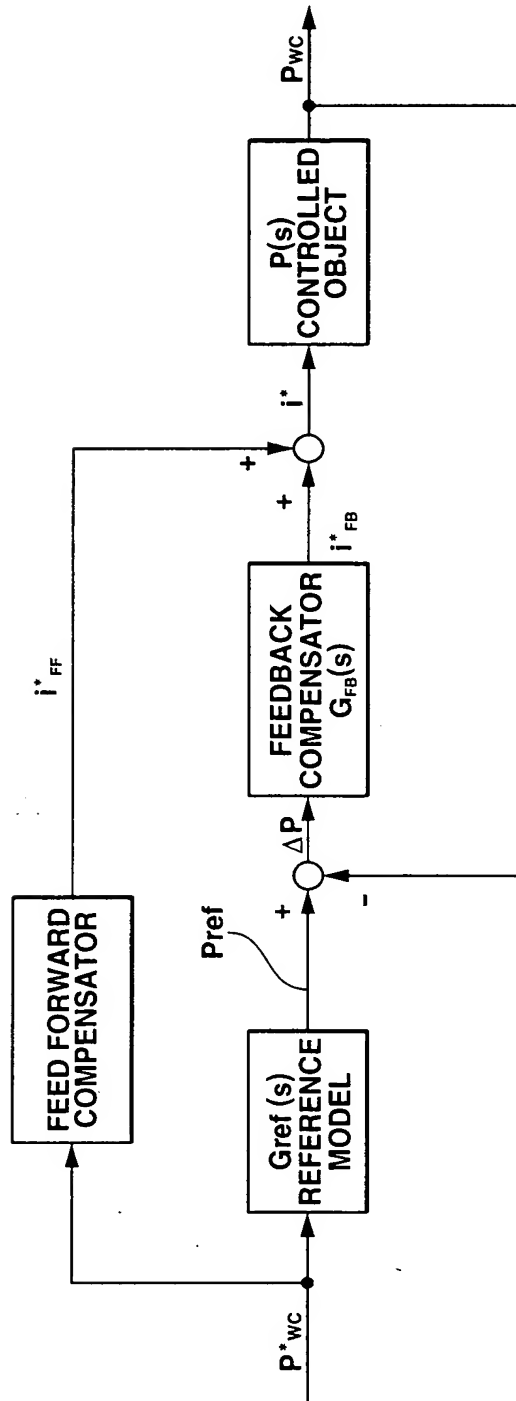


FIG.4



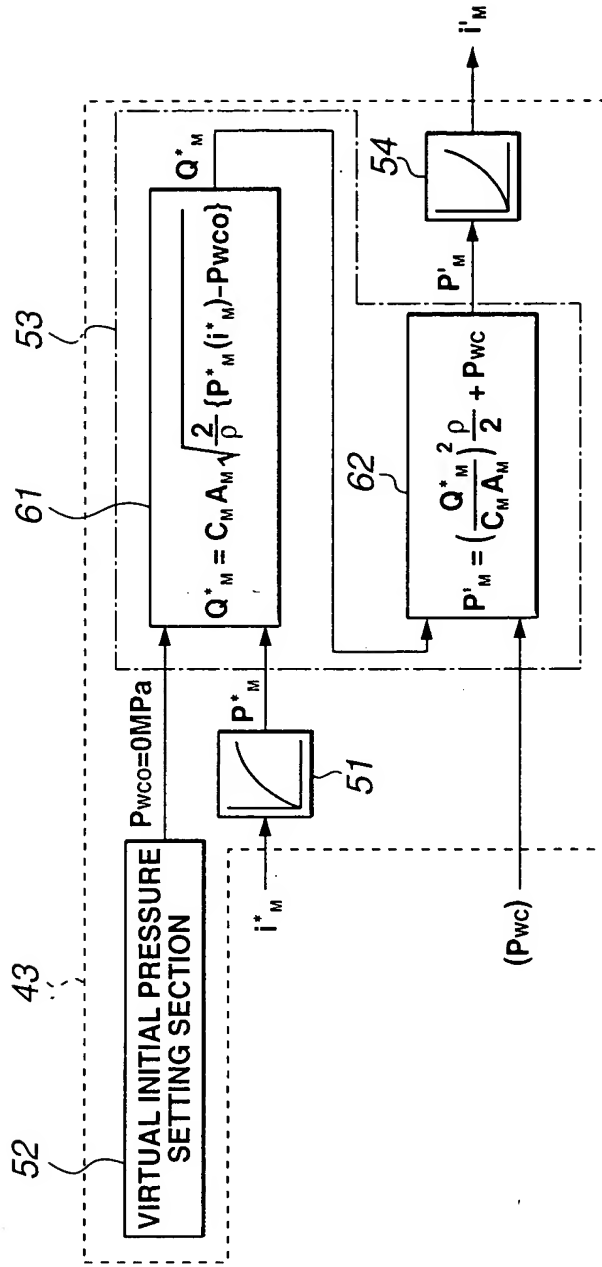


FIG.5A

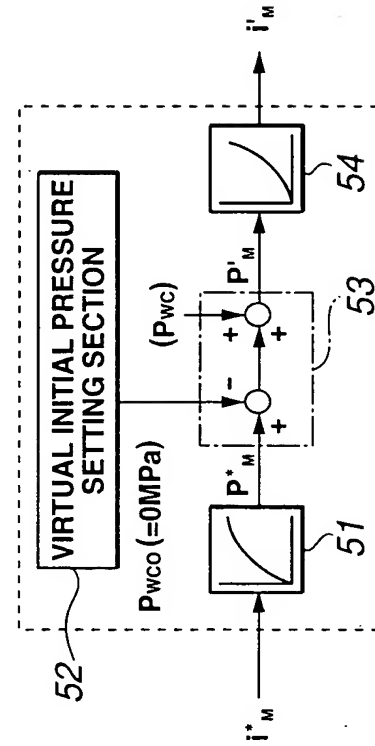


FIG.5B

FIG.6

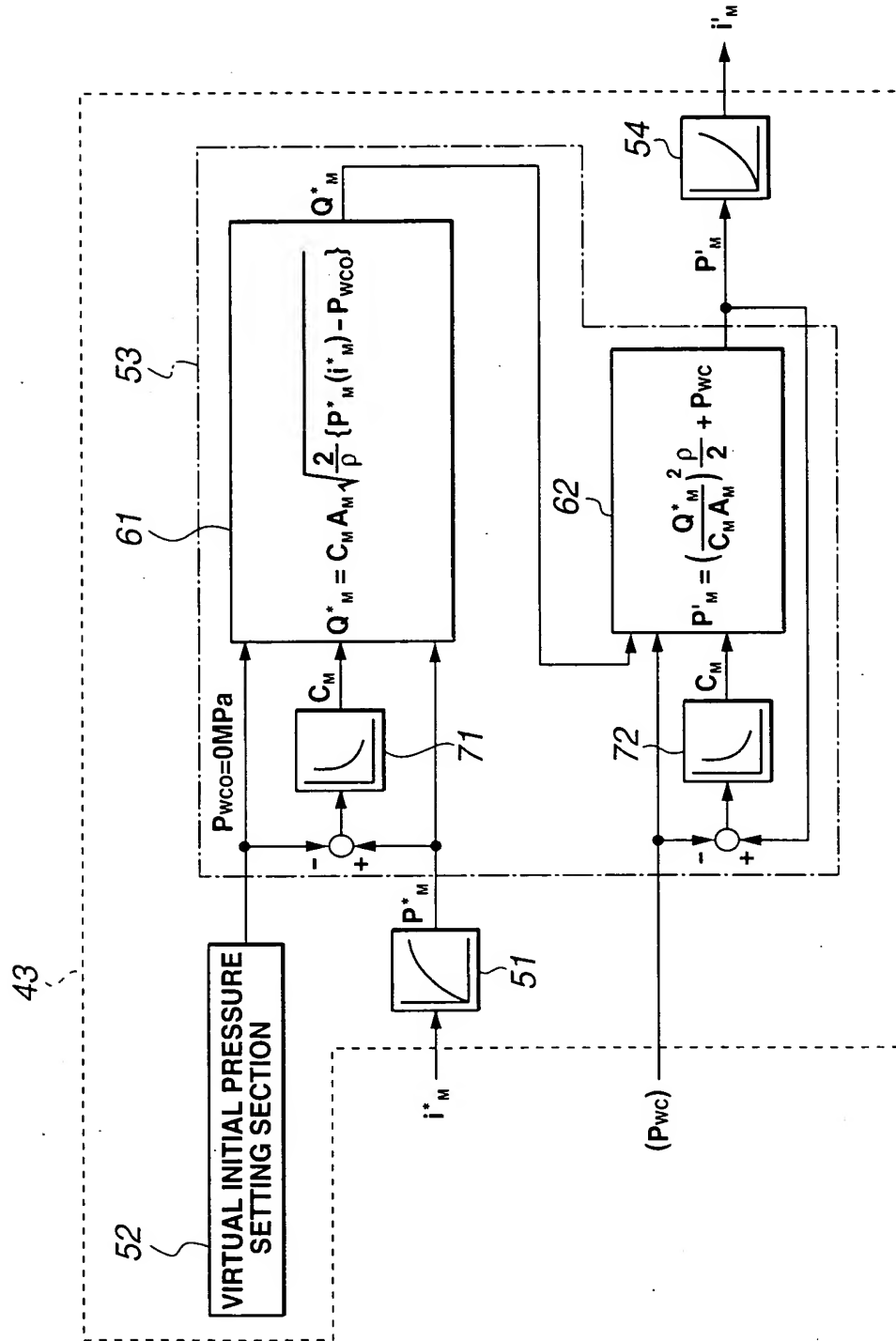


FIG.7

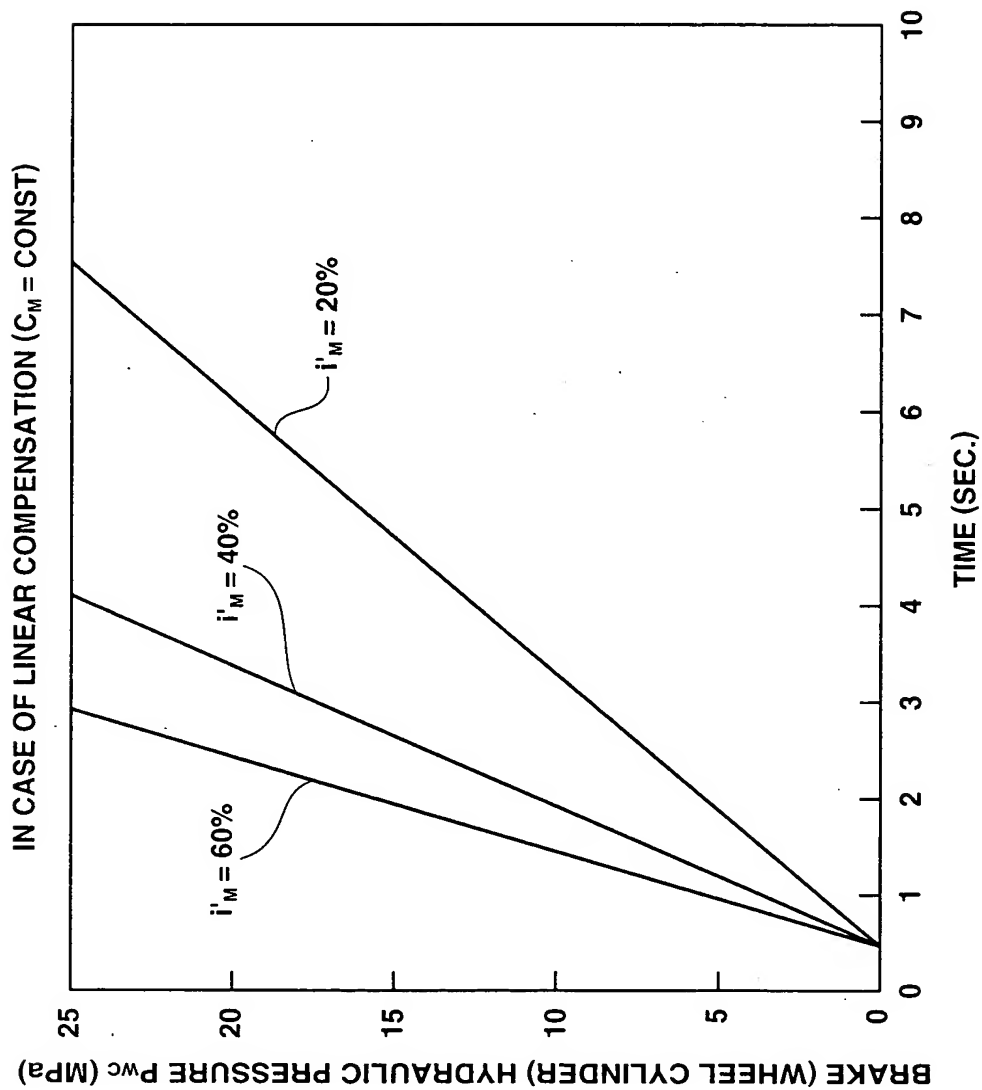


FIG.8

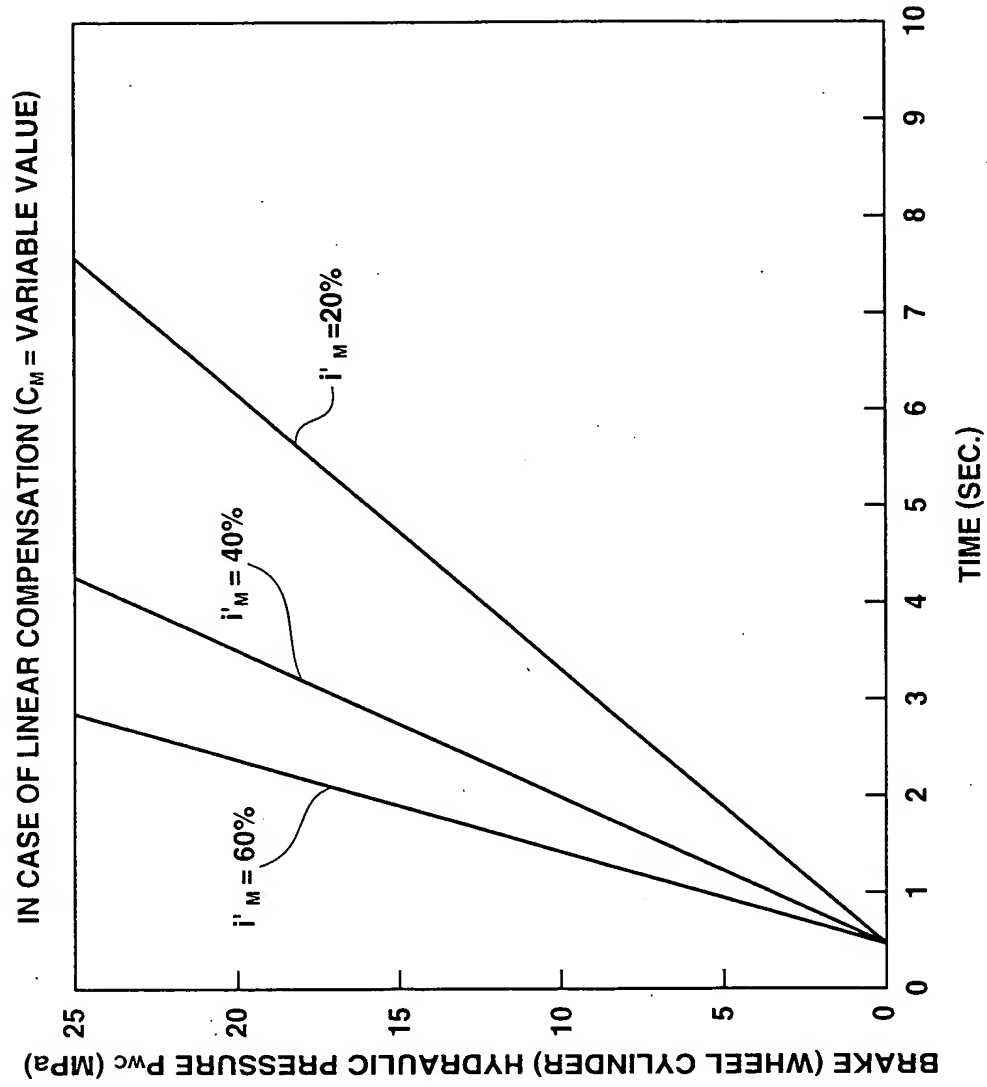


FIG.9

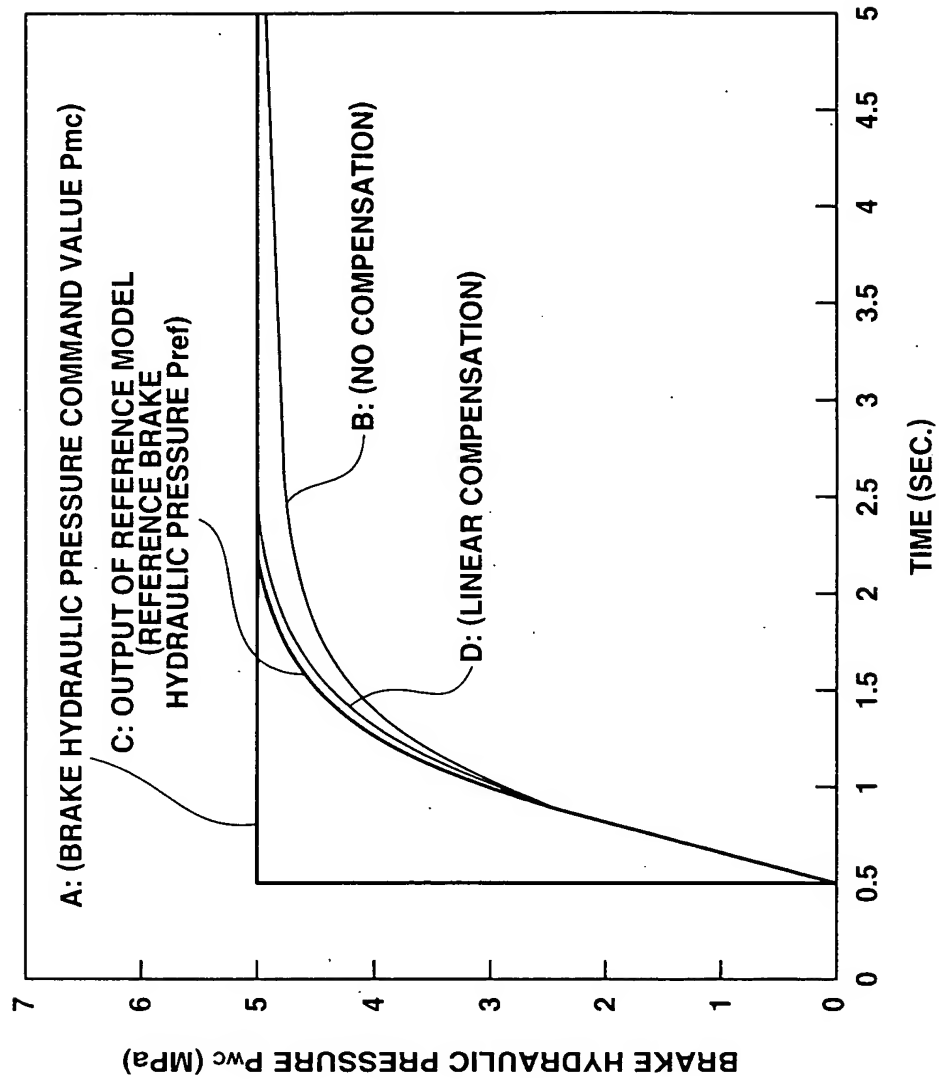


FIG.10
(RELATED ART)

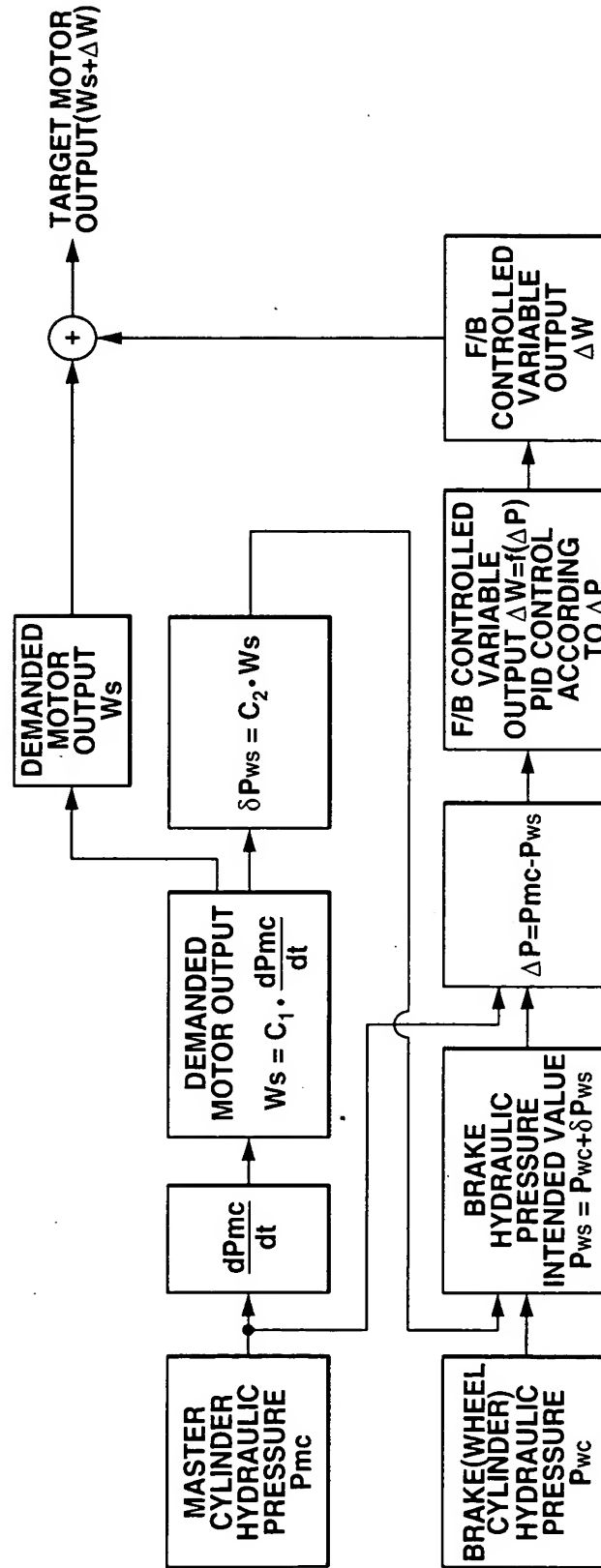
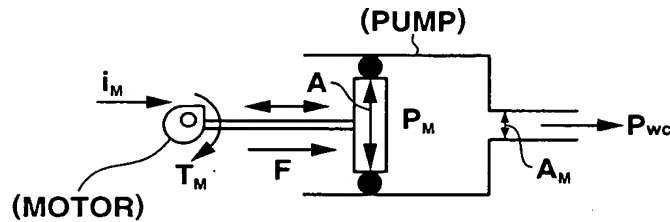


FIG.11



i_M : PUMP DRIVE MOTOR CURRENT [A] (PROPORTION TO DUTY RATIO)

T_M : PUMP DRIVE MOTOR AXIAL TORQUE [N·s]

F : FORCE APPLIED TO CROSS-SECTION A [N]

A : PISTON CROSS SECTIONAL AREA [m²]

P_M : ORIFICE UP STREAM PRESSURE [MPa] (PROPORTION TO PISTON INNER PRESSURE, PUMP DRIVE MOTOR CURRENT)

P_{wc} : ORIFICE DOWN STREAM PRESSURE [MPa] (HYDRAULIC PRESSURE)

A_M : PUMP ORIFICE OPENING CROSS-SECTION [m²]

Q_M : PUMP VOLUMETRIC FLOW RATE [m³/s]

C_M : PRESSURE INCREASING SIDE FLOW RATE COEFFICIENT

Q_M : FLUID DENSITY [kg/m³]

PUMP FLOW RATE MODEL :

$$Q_M = C_M A_M \sqrt{\frac{2}{\rho} \{P_M(i_M) - P_{wc}\}}$$

FIG.12
(RELATED ART)

